Streams crossed by the Detailed Study Alternatives may be temporarily and locally impacted by road construction. Potential short-term impacts include temporarily increased sedimentation and turbidity levels. Long-term impacts to streams as a result of road construction are expected to be negligible, but an increase in impervious road surface area will result in increased runoff with the potential for carrying higher pollutant loads. Turbidity curtains and silt screens can be used along stream channels adjacent to active construction. Adherence to the NCDOT's current *Best Management Practices for Protection of Surface Waters* during design and construction of the proposed project are expected to minimize impacts.

Stream Mitigation. It is recommended that unavoidable stream impacts be confined as much as possible to the entrenched channels (G types) to minimize potential riparian wetland impacts and consequential needs for mitigation.

Temporary construction impacts due to erosion and sedimentation would be minimized through implementation of a stringent erosion control schedule and use of best management practices. The contractor would be required to follow contract specifications pertaining to erosion control measures (as outlined in 23 CFR Part 650, Subpart B and Article 107-13) entitled *Control of Erosion, Siltation, and Pollution* (NCDOT, Specification for Roads and Structures). These measures include the following:

- Use of dikes, berms, silt basins, and other containment measures to control runoff during construction. Regular maintenance and inspection of these structures is recommended to ensure effectiveness;
- Elimination of construction staging areas in floodplains or adjacent to streams and tributaries to help reduce the potential for petroleum contamination or discharges of other hazardous materials into receiving waters;
- Rapid reseeding of disturbed sites to help alleviate sediment loading and reduce runoff. Increased runoff from new highway surfaces can be partially mitigated by providing for grassed road shoulders and limited use of ditching;
- Careful management and use of herbicides, pesticides, de-icing compounds, or other chemical constituents to minimize potential negative impacts on water quality; and
- Avoidance of direct discharges into streams whenever feasible. Runoff effluent should be allowed to filter through roadside vegetation in order to remove contaminants and to minimize runoff velocities.

The need for stream relocations is not anticipated. Should such actions be required, as determined during final design, coordination with the US Fish and Wildlife Service and the NC Wildlife Resources Commission would be completed in accordance with mandates expressed in the Fish and Wildlife Coordination Act [72 Stat. 563, as amended, 16 USC 661 et seq. (1976)].